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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/066,542	02/05/2002	Osamu Nakamura	740756-2431	5042
22204	7590	06/08/2005	EXAMINER	
NIXON PEABODY, LLP 401 9TH STREET, NW SUITE 900 WASHINGTON, DC 20004-2128			JACKSON JR, JEROME	
			ART UNIT	PAPER NUMBER
			2815	

DATE MAILED: 06/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/066,542	Applicant(s) NAKAMURA ET AL.	
	Examiner Jerome Jackson Jr.	Art Unit 2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-6,8-13,15-18,20-23,25-27 and 41-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-6,8-13,15-18,20-23,25-27 and 41-56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/31/05</u> . | 6) <input type="checkbox"/> Other: _____ |

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1,3-6,8-13,15-18,20-23,25-27,41-44 and 45-56 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The previous rejection still applies. As stated, there is no enabling description of a channel region with an amorphous layer and a crystalline layer. Figures 2A-2G clearly show that the amorphous layer 206 is removed and does not comprise the channel layer 204, 208, 213 which layer clearly does not comprise an amorphous layer. Recitations in the original disclosure stating that the channel layer comprises an amorphous layer and a crystalline layer are contradictory to the process description shown in figures 2A-2G and are not considered enabling or a proper written description for a channel with an amorphous and crystalline layers. There is no enabling disclosure for a channel with amorphous and crystalline layers.

Claims 1,3-6,8-13,15-18,20-23,25-27,41-56 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Henley, of record.

The previous rejection still applies.

Applicant's arguments filed 3/28/05 have been fully considered but they are not persuasive. Arguments regarding the alleged amorphous/crystalline channel layer are unconvincing as there is simply no enablement for such a double layer channel structure. Figures 2A-2G contradict the bald statements in the original disclosure that applicant had any enablement for a double layer channel including an "amorphous" layer and a "crystalline" layer. The amorphous layer 206 is removed. Applicant is invited to point out where in figures 2A-2G, disclosing the entire process of making the invention, there is any enablement or any reason to conclude that there is any enablement for an amorphous channel layer. Even considering that such a device could possibly be made, there is no enablement in applicant's disclosure for making such a device.

Applicant argues that Henley does not show a "channel region" including a rare gas layer with a "concentration gradient" nor different crystallinity layers. As stated in the rejection figure 8 shows "channel region" 806 comprising a rare gas layer 807 of noble gas bubbles in a layer of polysilicon. Layer 807 comprises a noble gas and therefore has a "concentration gradient" of noble gas. There is no particularly claimed concentration gradient which would in any way structurally distinguish over the concentration gradient of Henley. Applicant further argues that only layer 805 forms a "channel region". This argument is unpersuasive as "channel region" is a mere label here and can be defined in Henley as comprising all the layers of 806. There is no reason to limit the "channel region" of Henley to comprise only the top layer 805. Applicant's claim 1 does not even mention a gate structure or any complete structure of

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a field effect transistor, and accordingly, "channel region" is considered a mere label describing some layered structure. Applicant is reading his claim too narrowly. In regard to arguments that Henley does not show "channel" layers of different crystallinity, note again that noble gas implanted layer 807 forms bubbles and implant damage and therefor has less crystallinity than layers 805 above and below layer 807. Layer 805 above layer 807 comprises a channel layer of greater crystallinity than lower "channel" layer 807.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

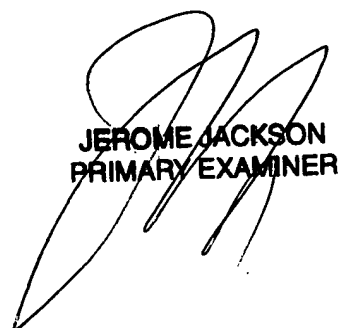
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerome Jackson Jr. whose telephone number is 571 272 1730. The examiner can normally be reached on t-th 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on 571 272 1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jj


JEROME JACKSON
PRIMARY EXAMINER